

Final Environmental Impact Statement

Tellico Reservoir

Land Management Plan



Public Summary

June 2000



FINAL ENVIRONMENTAL IMPACT STATEMENT

TELLICO RESERVOIR

LAND MANAGEMENT PLAN

PUBLIC SUMMARY

**This Assessment was Prepared by
The Tennessee Valley Authority
Resource Stewardship
Little Tennessee Watershed Team
804 Highway 321 North
Lenoir City, Tennessee 37771**



June 2000

TELLICO RESERVOIR LAND MANAGEMENT PLAN

Blount, Loudon, and Monroe Counties, Tennessee

Responsible Federal Agency: Tennessee Valley Authority (TVA)

Abstract: TVA has prepared a Final Environmental Impact Statement (EIS) and a TVA comprehensive Land Management Plan (Plan) for the 12,643 acres (360.8 shoreline miles) of TVA land above the summer operating range (812-813 elevation) on Tellico Reservoir. The EIS documents the analysis of alternative uses of the TVA lands and their influence on the surrounding environment. The Plan provides a clear statement of how TVA would manage its land in the future, based on scientific, cultural, and economic principles. This Plan takes into account the comments received from the general public in the east Tennessee area. The Plan prepared for Tellico Reservoir is intended to guide TVA resource and property management decisions for the next ten years. It identifies the most suitable range of uses for 139 parcels of TVA public land. TVA considered two alternatives for making land use decisions for the TVA land around Tellico Reservoir. Under the No Action Alternative (Alternative A) TVA would continue to use the existing land use plan to manage TVA land on Tellico Reservoir. Under the Allocation Alternative (Alternative B), an updated and revised Tellico Reservoir Land Management Plan is proposed.

The draft of this EIS was distributed in February 2000. TVA received 34 sets of comments on the draft. This EIS includes responses to these comments. The full EIS and Tellico Reservoir Land Management Plan can be viewed on the Internet at <http://www.tva.gov/environment/reports/tellicoeis>.

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SUMMARY DOCUMENT PREVIEW

This document is a summary of the Environmental Impact Statement (EIS) on the alternatives for use of TVA retained lands along Tellico Reservoir. The EIS and this summary describe the alternatives and their effects on key resource issues. This document summarizes:

- Background and Purpose
- The Decision
- Public Involvement and Scoping
- Necessary Federal Permits or Licenses
- Alternatives Including the Proposed Action
- Alternatives Eliminated From Consideration
- Affected Environment
- Comparison of Alternatives
- The Preferred Alternative

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1. INTRODUCTION

From its conception, the Tellico Project was planned as a multipurpose reservoir project for flood control, navigation, water supply, economic development, recreation, and electric power generation (by supplying water to Fort Loudoun Dam and other hydrogenerating facilities). The original planning effort resulted in the project lands being allocated to meet anticipated demand for residential, commercial, and industrial development; recreation; wildlife management; forestry; cultural resource protection; and agricultural, navigation, flood control, and power production uses. As a result of past management practices, public interest, and TVA partnerships with the Tellico Reservoir Development Agency and others, the Tellico Project goals and objectives to foster the orderly, physical, economic, and social development of the area have thus far been met. The Tellico Reservoir area, however, has changed greatly since 1979 when the gates of the newly-constructed Tellico Dam were closed.

In addition to considering continued management of Tellico Reservoir lands under the existing contract and plan (Alternative A), TVA considered a wide range of possible land uses in the development of the plan proposed under Alternative B. Each parcel of land was individually reviewed to determine its physical capabilities, suitable uses, and the needs of the public. Based on this information the Tellico Reservoir Planning Team allocated land parcels to six of seven potential planning zones, described in Table 4. The Tellico Reservoir Land Management Plan (Plan) was developed using information obtained from the public, existing and newly-collected field data both on land conditions and resources, as well as the technical knowledge from the TVA staff.

The Environmental Impact Statement (EIS) examines the potential effects of continuing to manage Tellico Reservoir lands under the existing Contract No. TV-60000A and original plan (Alternative A), or of implementing a new plan (Alternative B) that reevaluates the suitability and capability of plannable properties still under TVA control, to identify properties that would best meet the current and future management objectives for Tellico Reservoir. TVA intends to use the selected alternative plan to guide future decision-making and to systematically manage its Tellico Reservoir properties, to provide a high level of benefits to the public, and to balance competing, and sometimes conflicting, resource use goals.

The EIS has been prepared to provide the public and TVA with a description of the potential environmental impacts associated with the alternatives. The EIS addresses sensitive resources and issues or concerns raised by the public during the scoping period. TVA welcomes public comments on the Plan and EIS.

1.1 Background and Purpose

In November 1979, the gates to the newly-constructed Tellico Dam were closed, and the multipurpose TVA reservoir began backing up the Little Tennessee and Tellico Rivers. The Tellico Project, once known as the “Fort Loudoun Extension” and planned since the late 1930s, consists of the Tellico Reservoir and the adjacent lands purchased by TVA. Approximately 37,737 acres of land were purchased for the

project. Of that, 13,943 acres are normally covered by water during the summer, resulting in a reservoir pool with 360.8 miles of shoreline. The balance of the acquired Tellico Project lands is used for industrial, residential, commercial, and public recreational purposes. Table 1 shows the current land use status and Figure 1 is a map of the Tellico Reservoir and vicinity.

In April 1982, the Tellico Reservoir Development Agency (TRDA) was created by the Tennessee Legislature to assist TVA in the development of 11,151 acres of land acquired for the Tellico Reservoir Project. A public auction sale of this land to TRDA was held on November 26, 1982. TRDA is a public corporation with a mandate to plan programs and implement activities for the comprehensive development of the land conveyed to it by TVA. TRDA's management, use, development, and conveyance of these lands are governed by a joint agreement (Contract No. TV-60000A) between TVA and TRDA which was made and entered into on August 25, 1982.

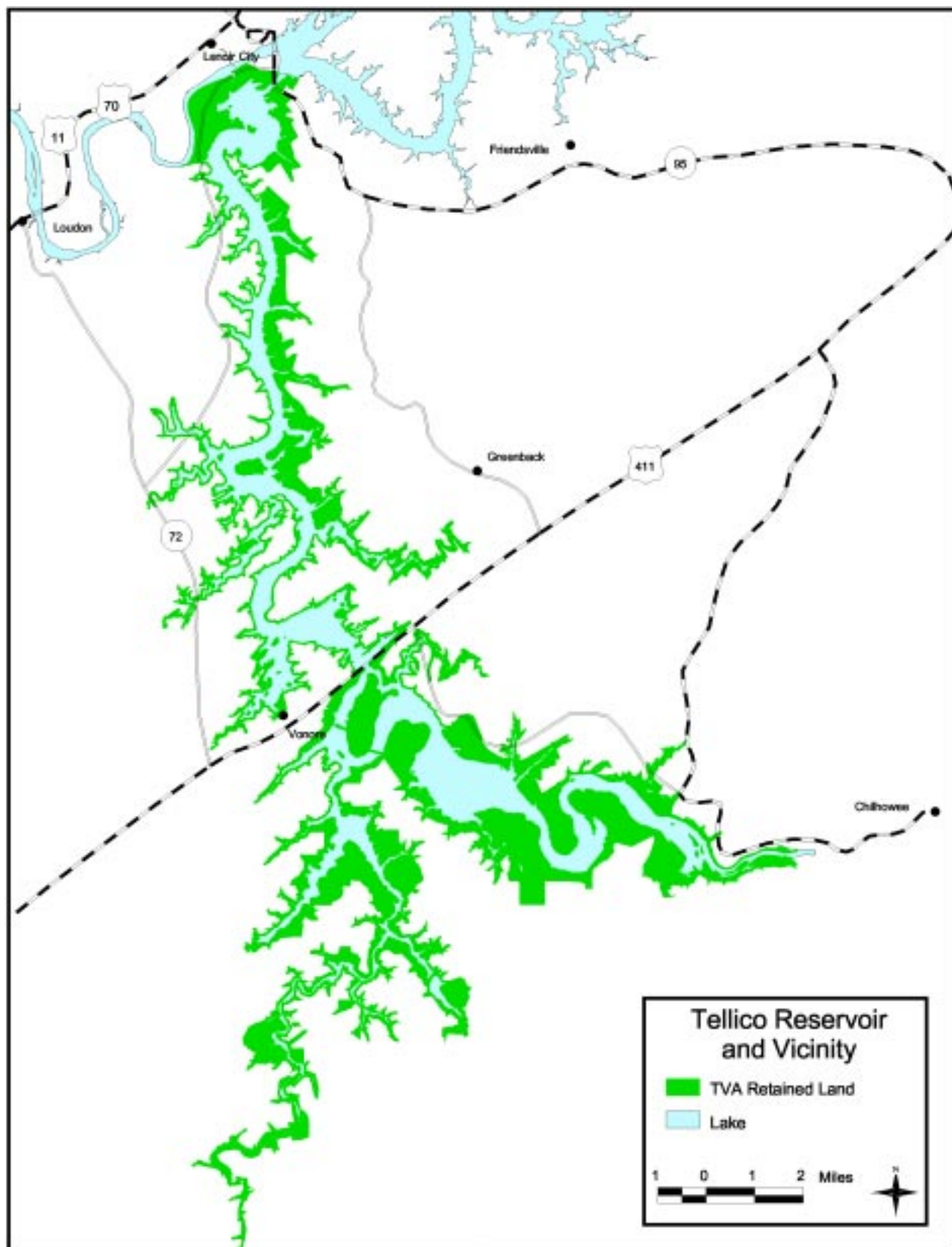
Table 1 Current Land Use Status	
Land Status	Acreage
Committed (unplannable) Land	6,103.0
Uncommitted (plannable) Land	6,539.8
Land below 813-foot contour elevation	13,943.0
Land Conveyed to TRDA	11,151.0
Total	37,736.8

One of the major objectives for creating the Tellico Reservoir Project, reflected in the integrated land plan, was to develop and use the acquired lands that surround the reservoir in a way that would permit the project to make the maximum possible contribution to the economy of the region.

TVA develops reservoir land plans in order to systematically manage its reservoir property. These plans seek to integrate land and water benefits, provide for the optimum public benefit, and balance competing and, sometimes, conflicting resource uses. By providing a clear statement of how TVA manages land and by identifying each parcel for specific purposes, TVA hopes to balance conflicting land uses and facilitate decision-making for use of its land. Plans are approved by the TVA Board of Directors and adopted as agency policy, to provide for long-term land stewardship and accomplishment of TVA responsibilities under the TVA Act.

Comprehensive land management plans have been completed and implemented for seven mainstream and two tributary reservoirs. The purpose of the EIS is to examine the impacts of possible alternative uses of TVA's remaining land on the Tellico Reservoir.

Figure 1 Map of Tellico Reservoir



1.2 The Decision

TVA will decide whether to adopt a new Tellico Reservoir Land Management Plan as TVA policy or to continue the use of the existing land use plan as described in Contract No. TV-60000A as supplemented.

1.3 Public Involvement and Scoping

In January 1997, an article was published in the TVA *River Neighbors* magazine announcing that planning was under way on Tellico Reservoir. This publication was sent to over 20,000 people throughout the Tennessee Valley and beyond. A questionnaire was developed and sent to these and other interested parties for their comments concerning land use on Tellico Reservoir. Questionnaires were given to 5th and 6th grade students to take home to their parents at the following area schools: Highland Park Elementary (Loudon County), Madisonville Intermediate (Monroe County), and Eagleton Elementary (Blount County). A similar questionnaire was developed for local county and city officials, area planning organizations, and other stakeholder groups concerning land use on Tellico Reservoir. TVA staff also solicited input from representatives of a cross-section of groups of people who use or are concerned with the resources of Tellico Reservoir. Interested state and federal agencies and other natural resource-oriented groups such as the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Tennessee Wildlife Resources Agency (TWRA), Quail Unlimited, and the Tennessee Division of Forestry were asked to participate in the Tellico Reservoir land planning process by providing comments on the proposal to develop a land use plan.

TVA originally anticipated completing an Environmental Assessment (EA) on the Tellico land plan. However, in October 1998, the Tellico Landing, Inc. (TLI), development group expanded and renewed their 1994 request to develop approximately 850 acres of TVA property in conjunction with 217 acres of TRDA property known as Lower Jackson Bend. In anticipation of the additional issues and concerns that could be generated by a commercial development along 7 river miles of the Tellico shoreline, TVA raised the level of NEPA review from an EA to an EIS. A Notice of Intent to prepare an EIS was published in the *Federal Register* on January 14, 1999.

A public meeting was held on January 28, 1999, at the Lenoir City High School with well over 700 people in attendance. The three proposals identified for this meeting concerned 1) a Greenway from Lotterdale Cove to Lower Jackson Bend; 2) a River Corridor concept that would be applied to the upper reaches of the Tellico River; and 3) the proposed TLI development. By far, most of the issues raised at the meeting and in the balance of the public comment period, were centered on the commercial development of TVA property as proposed by TLI. The majority of comments received at the January 28 meeting, and in the subsequent weeks, were strongly opposed to the TLI proposal.

On March 15, 1999, the TVA Board of Directors issued a public statement dropping the TLI proposal from further consideration. Consequently, many of the issues identified at the public meeting and in the subsequent comment period such as boat and automotive traffic, noise, night light, water quality, and visual impacts, had lesser significance. Plans to conduct appropriate in-depth surveys addressing such issues were no longer necessary.

Information and comments collected from the general public, public officials, stakeholders, peer agencies, and focus groups as well as internal TVA scoping and historical information were used to identify the following resources/issues that are considered in the EIS:

- Visual Resources
- Cultural Resources, including Archaeological Resources
- Threatened and Endangered Species
- Terrestrial Ecology and Significant Natural Features
- Wetlands and Riparian Ecology
- Recreation
- Water Quality
- Aquatic Ecology
- Socioeconomics
- Navigation
- Prime Farmland

The following issues, also identified in scoping, are not likely to be issues affected by the proposed alternative:

- Floodplains
- Noise
- Air Quality

TVA accepted comments on the DEIS and Plan from February 18th through May 10th. Comments could be made by:

- Visiting the TVA website at <http://www.tva.gov/environment/reports/tellico>;
- Sending comments to Steven Akers, Little Tennessee Watershed Office, 804 Highway 321, Lenoir City TN 37771;
- Emailing slakers@tav.gov;
- Calling 1-800-TVA-LAND; or
- Attending the public open house information session at the Lenoir City High School March 28th, 2000. TVA staff were available between the hours of 4:30 and 9 p.m. to answer questions and discuss the DEIS and Plan with the public. During the information session the public also had an opportunity to record their comments verbally or in writing.

Following public review and comment on the DEIS and agency response to those comments, the Final EIS is being issued by TVA. The proposed Plan and Final EIS will be presented to the TVA Board of Directors for their consideration and approval of an alternative. If approved, TVA will then issue its Record of Decision, and the selected alternative will be adopted as the Agency's policy to provide for long-term stewardship and accomplishment of TVA responsibilities under the 1933 TVA Act.

1.4 Necessary Federal Permits or Licenses

No federal permits or licenses are required to develop a reservoir land plan. To the extent possible, site-specific background information on reservoir resources has been characterized in the EIS, and the potential impacts on these resources were considered in making the parcel allocations. Appropriate agencies regulating wetlands, endangered species, and historic resources have been consulted during this planning process. When specific actions such as a dock, building, road, or walking trail are proposed that could affect sensitive resources, additional review and appropriate permits or consultations may be required in order to gain approval of the actions.

2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

This section describes the two alternatives (the No Action and Allocation Alternatives) and summarizes the environmental consequences associated with each alternative.

2.1 The Proposed Action

The proposed action is to formulate a comprehensive Plan to guide resource and property management decisions for TVA land on Tellico Reservoir. The Plan is intended to provide a clear direction for management, based on scientific, cultural, and economic principles. The Plan will address sensitive resources and issues and concerns raised by the public. In the Plan, TVA will also seek to integrate management of land and water resources, to provide increased public benefits, and to balance competing and, sometimes, conflicting resource uses. The Plan takes into account the comments received from the general public. It identifies the proposed range of uses for 12,643 acres (139 parcels) of TVA-owned public land.

2.2 Alternatives

TVA is considering two alternatives for making land use decisions for TVA land around Tellico Reservoir. Under the No Action Alternative (Alternative A), TVA would continue to use the existing 1982 land use plan, Contract No. TV-60000A, to manage TVA land on Tellico Reservoir. Under the Allocation Alternative (Alternative B), TVA would use an updated Tellico Reservoir Land Management Plan to guide future land use decisions.

For either alternative, Section 26a of the TVA Act requires that TVA approval be obtained prior to construction along or in the Tennessee River and its tributaries. A common feature of both alternatives is categorization of the residential and flowage easement shoreline. In accordance with the TVA Shoreline Management Policy (SMP) Record of Decision, the following three categories will be used for residential shoreline:

- **Shoreline Protection** for shoreline segments that support sensitive ecological resources, such as federally-listed threatened or endangered species, high priority state-listed species, wetlands with high function and value, archaeological or historical sites of national significance, and certain navigation restrictions zones. Within this category, all significant resources will be protected.
- **Residential Mitigation** for shoreline segments where resource conditions or certain navigation restrictions would require special analysis of individual development proposals, additional data, or specific mitigation measures.

Managed Residential for shoreline segments where no sensitive resources are known to exist. Routine environmental review would be completed for any proposed action.

2.2.1 Alternative A - No Action Alternative

Under the No Action Alternative, TVA would continue to use the 1982 land use plan established by Contract No. TV-60000A with the Tellico Reservoir Development Agency. This plan allocates land into three categories: TVA retained land, transferred land, and land under easement.

Contract No. TV-60000A serves as a general guide for land use and/or development and documents actual and prospective use indicated for all land surrounding the reservoir. When a proposal is received from an external applicant or from an internal TVA initiative, the proposed land use is evaluated for consistency with the plan and the request is either approved or denied based on the results of an environmental review and other considerations. Copies of TVA Contract No. TV-60000A and its supplements are available for review and recorded at the Loudon, Monroe, and Blount County Courthouses.

On Tellico Reservoir, land has been sold or transferred for various uses including industrial, residential, natural resource management, recreation, water treatment facilities, pump stations, and highway rights-of-way. Under Alternative A, these land use designations would continue as shown on Attachment A of Contract No. TV-60000A.

Under TV-60000A, a request for privately-owned facilities will be considered if it meets one of the following conditions: (1) the adjoining private property lies within 100 feet of the 820-msl contour and abuts those areas designated for Cultural/Public Use/Open Space Areas and Private Residential Areas; (2) the adjoining private property has outstanding rights of ingress to and egress from the reservoir pursuant to a deed or other similar document regardless of the distance from the 820-msl contour; or (3) the adjoining property was transferred by TVA to TRDA pursuant to Contract No. TV-60000A, and the proposed request meets the requirements established in Attachment B of the contract. The intent of the above criteria is to provide a reasonable and safe access to abutting property owners to the main reservoir body. Properties isolated from the main reservoir body by public roads would not qualify for residential access under these criteria.

The existing Tellico land use plan divides the TVA land and former TVA land into three categories:

- **TVA-Retained Land** – Tellico Project land acquired by TVA in the name of the United States for the Tellico Project lying above the 820 maximum shoreline contour (msc) which is retained by TVA to be managed (approximately 9,959 acres).

- **Easement Land** – Portions of the transferred land which are designated for Public Use Recreation purposes or to the Eastern Band of the Cherokee Indians (approximately 591 acres).
- **Transferred Land** – All lands acquired by TVA in the name of the United States for the Tellico Project lying above the 820-msc and designated as either developed land or easement land except for the project land adjacent to Watts Bar Reservoir (approximately 202 acres) where the structure profile is 750-msl rather than the 820-msl. This land is suballocated to Private Residential Areas, Industrial Development Areas, Cultural/Public Use/Open Space Areas and Commercial Recreation Areas (approximately 10,949 acres).

Table 2 summarizes the existing land use plan designation categories. The current designation of lands is also shown on Exhibit 1.

Table 2. Tellico Reservoir Existing Plan Land Use Designation Definitions	
Plan Designations	Definition
RETAINED LAND	
TVA Dam Reservation	Land that is managed to protect the integrity of the dam and associated switchyards and power lines. Most TVA dam reservations provide a visitor reception building that overlooks the facilities. Day-use recreational activities such as picnicking, fishing, hiking, and bird watching are encouraged. Campgrounds and boat launching facilities are often available. Generally speaking, maintenance levels and care of the facilities are higher on dam reservation land than on other areas of the reservoir. Hunting and unregulated camping are generally prohibited on the reservations.
Cultural/Public Use/Open Space Areas	Tellico Project land which is either to be retained by TVA or to be transferred to TRDA (see “transferred land,” below) and managed so as to protect and enhance the cultural resources and scenic amenities of the project area; provide a buffer between incompatible or contrasting land uses; provide areas for passive or informal recreational purposes such as primitive camping, picnicking, hiking, fishing, and hunting; and permit complementary agriculture, forestry, and wildlife utilization of this land. Where cultural or scenic resources exist, appropriate activities may also be conducted to ensure that these resources are developed, interpreted, and protected and public access is accordingly limited or controlled.
Industrial Development Areas	Tellico Project land which is either retained by TVA or transferred to TRDA (see “transferred land,” below) and used for manufacturing, storage, warehousing, ports, and shipping buildings and facilities, and other related activities which serve to directly encourage the creation of jobs in the project area.
Natural/Wildlife Areas	Tellico Project land retained by TVA and managed so as to protect and enhance the natural qualities of the area around the reservoir that provide important habitat for resident and migratory wildlife; provide areas for passive or informal recreational purposes such as primitive camping, picnicking, hiking, fishing, and hunting; and permit complementary agriculture and forestry utilization of this land.

Table 2. Tellico Reservoir Existing Plan Land Use Designation Definitions	
Plan Designations	Definition
EASEMENT LAND	
Public Use Recreation Areas	Tellico Project land which is either transferred to TRDA, adjoining county(ies), or retained by TVA and used solely for Public Use Recreation purposes.
State Recreation Areas	A Grant of Easement from TVA to the Tennessee Department of Conservation for purposes of public recreation, historic and scenic preservation, and wildlife management for the benefit and enjoyment of the general public.
Eastern Band of the Cherokee Indians Memorial Site	A Grant of Easement from TVA to the Eastern Band of the Cherokee Indians which provide, among other things, for cooperation in the development of historical and cultural resources in the Tellico Reservoir Project area through a series of projects designed to memorialize the American Indian presence in the project area.
TRANSFERRED LAND	
Private Residential Areas	Tellico Project land that is transferred to TRDA with the designated purpose of Residential Access.
Commercial Recreation Areas	Tellico Project land that is transferred to TRDA with the designated purpose of Commercial Recreation.
Other	Other Development Land types—Cultural/Public Use/Open Space Areas; Industrial Development (described above)—can also be transferred.

Table 3 summarizes the 1982 Tellico land use plan designation of the retained land tracts on Tellico Reservoir.

Table 3 Allocation of Land in the 1982 Tellico Reservoir Land Use Plan (Alternative A)*		
Land Use Category	Number of Acres	Percent of Total Land
TVA Dam Reservation	665.9	5.3%
Natural/Wildlife Areas	1,912.3	15.1%
Cultural/Public Use/Open Space Areas	7,679.9	60.7%
Industrial Development Areas	367.0	2.9%
Private Residential Areas	423.6	3.4%
Commercial Recreation Areas	41.7	.3%
Public Use Recreation Areas	484.9	3.8%
State Recreation Areas	901.8	7.1%
Eastern Band of the Cherokee Indians Memorial Site	109.6	.9%
Highway	56.1	.4%
Total	12,642.8	100.0%

2.2.2 *Alternative B - Allocation Alternative*

Alternative B, the proposed Plan, was developed using information obtained from the public, existing and newly-collected field data both on land conditions and resources, and technical knowledge from TVA staff. It would allocate most TVA land into categories that emphasize sensitive resource management (preservation and enhancement of wetlands, biodiversity, and archaeological and historic resources) and natural resource conservation.

Public recreation projects that have been conceptually proposed by various agencies for Tellico Reservoir are presented under Alternative B. However, each of these proposals could be considered under either alternative. If they become formal proposals, the compatibility of the proposal with land use allocations or zoning would be considered, and each, individual proposal would be subjected to the appropriate level of additional environmental review. A minimal amount of additional development would be proposed to accommodate the following proposals:

- **The Eastern Band of the Cherokee Indians Development** - This 38-acre tract of TVA land (Parcel 94) is located in Vonore between Highway 411 and the Tellico River near the merging point of the Little Tennessee and Tellico Rivers. As conceptually proposed by the Eastern Band of the Cherokee Indians, this development could include, but not be limited to, a hotel, a conference center, restaurants/lounges, boat docking facilities, fishing/marine concessions, walking trails, and general parking. Some of the revenues generated from this development would be used to support the operation of the Sequoyah Birthplace Museum. Under Alternative A this land is both Cultural/Public Use/Open Space Areas (25 acres) and Public Use Recreation Areas (13 acres). Under Alternative B, these parcels would be zoned Recreation.
- **Greenway.** The Tennessee Department of Environment and Conservation (TDEC) has asked TVA to consider including a linear park or Greenway along the right descending bank of Tellico Reservoir from Lotterdale Cove downstream to the recreation parcel upstream of Lower Jackson Bend. Because no formal proposal has been submitted by the state, the plan is conceptual rather than specific. The concept allows for access points, parking lots, restrooms, and/or picnic areas connected by a trail system that could be designed and built in stages. The exact locations of the proposed amenities have not been determined. The overall objective would be to connect Lotterdale Cove to Lower Jackson Bend while maintaining as much of the natural surroundings as possible. Under Alternative A, this land is designated as Cultural/Public Use/Open Space Areas. Under Alternative B, if the State proposed a Greenway approximately 10 miles long and up to 100 feet wide on existing public lands (tread with buffer), then approximately 121 acres within Parcels 8, 9, 10, 11, and 15 would be affected by the Greenway. The affected parcels would remain classified in Zones 3, 4, and 6.

- **Coytee Springs Recreation Area.** A new recreation site is proposed by TVA in the Coytee Springs area (Parcel 10). The amenities proposed for the site, including picnic areas, walking trails, and greenway entry/exit points, would be for day use only. The upstream portion of the site currently receives heavy informal recreation for fishing and camping. The proposed Greenway would pass through this recreation area. Under Alternative A, this land is designated as Cultural/Public Use/Open Space Areas. Coytee Springs Recreation Area would affect 84 acres and 1.1 miles of shoreline. Under Alternative B, this property would be classified in Zone 6.

TVA proposes to develop a **River Corridor** along the upper Tellico River portion of the reservoir. This is linear greenspace along both streambanks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities.

The purpose of a River Corridor is to afford opportunities for the recreating public to enjoy natural settings in a riverine environment. Portions of the Tellico River have these characteristics and are worth preserving for future generations. The upper Tellico River is predominantly undeveloped, with some exceptions where subdivisions have sprouted or adjoining private land owners have developed private water use facilities. A portion of the Tellico River offers free-flowing water which transitions to a lake environment and flat water. Much of the river is not navigable by large boats due to inadequate year-round water depth or underwater obstructions.

A portion of Tellico River from below Sloan Bridge upstream to the end of TVA land and land rights for a distance of about 7.7 miles is proposed for use as a River Corridor. The River Corridor includes the upstream part of Parcel 131 and Parcels 134, 135, 136, 137, 138, and 139. The River Corridor, not including islands, would affect 216 acres of TVA land and 20.6 miles of shoreline.

TVA considered a wide range of possible land uses in the development of this Plan. Each parcel of land was reviewed to determine its physical capability for supporting certain uses, suitability of supporting these uses, and public needs. Based on this information, the Tellico Planning Team allocated land parcels to one of seven planning zones, as defined in Table 4.

Table 4 Planned Land Use Zone Definitions		
Zone		Definition
1	Non-TVA Shoreland	<p>Shoreland located above summer operating range that TVA does not own in fee or land never purchased by TVA. TVA is not allocating private or other non-TVA land. This category is provided to assist in comprehensive evaluation of potential environmental impacts of TVA's allocation decisions. Non-TVA shoreline includes:</p> <ul style="list-style-type: none"> • Flowage easement land—Privately- or publicly-owned land where TVA has purchased the right to flood and/or limit structures. Flowage easement land is generally purchased to a contour elevation. Since this land is subject to TVA's Section 26a permitting requirements, the Shoreline Management Policy (SMP) guidelines discussed in the definition of Zone 7 would apply to flowage easement land fronting private residential development. • Privately-owned reservoir land—Including, but not limited to, Residential, Industrial/Commercial, and Agricultural.
2	TVA Project Operations	<p>TVA reservoir land currently used for TVA operations and public works projects includes:</p> <ul style="list-style-type: none"> • Land adjacent to established navigation operations—Locks, lock operations and maintenance facilities, and the navigation work boat dock and bases. • Land used for TVA power projects operations—Generation facilities, switchyards, transmission facilities, and rights-of-way. • Dam reservation land—Areas used for developed and dispersed recreation, maintenance facilities, Watershed Team offices, research areas, and visitor centers. • Navigation safety harbors/landings—Areas used for tying off commercial barge tows and recreational boats during adverse weather conditions or equipment malfunctions. • Navigation day boards and beacons—Areas with structures placed on the shoreline to facilitate navigation. • Public works projects—Includes fire halls, public water intakes, public treatment plants, etc. (These projects are placed in this category as a matter of convenience and may not relate specifically to TVA projects.) • Highways adjusted due to the development of the Tellico Project—Includes highways that were relocated or elevated to a location or an elevation that would allow continued use during normal flood events. • Land planned for any of the above uses in the future.
3	Sensitive Resource Management	<p>Land managed for protection and enhancement of sensitive resources. Sensitive resources, as defined by TVA, include resources protected by state or federal law or executive order and other land features/natural resources TVA considers important to the area viewscape or natural environment. Natural resource activities such as hunting, wildlife observation, and camping on undeveloped sites may occur in this zone; but the overriding focus is protecting and enhancing the sensitive resource the site supports. Areas included are:</p> <ul style="list-style-type: none"> • TVA-designated sites with potentially significant archeological resources. • TVA lands with sites/structures listed on or eligible for listing on the National Register of Historic Places.

Table 4 Planned Land Use Zone Definitions		
Zone		Definition
		<ul style="list-style-type: none"> • Wetlands—Aquatic bed, emergent, forested, and scrub-shrub wetlands as defined by TVA. • TVA land under easement, lease, or license to other agencies/individuals for resource protection purposes. • TVA land fronting land owned by other agencies/individuals for resource protection purposes. • Habitat protection areas—Areas managed by TVA to protect populations of species identified as threatened or endangered by the USFWS, state-listed species, and any unusual or exemplary biological communities/geological features. • Ecological study areas—Designated areas that are suitable for ecological research and environmental education by a recognized authority or agency. They typically contain plant or animal populations of scientific interest or are of interest to an educational institution that would utilize the area. • Small wild areas—Areas managed by TVA or in cooperation with other public agencies or private conservation organizations to protect exceptional natural, scenic, or aesthetic qualities that can also support dispersed, low-impact types of outdoor recreation. • River corridor with sensitive resources—A linear greenspace along both streambanks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. These areas will be included in Zone 3 when identified sensitive resources are present. • Significant scenic areas—Areas designated for visual protection because of their unique vistas or particularly scenic qualities. • Champion tree site— Areas designated by TVA as sites that contain the largest known individual tree of its species in that state. The state forestry agency “Champion Tree Program” designates the tree, while TVA designates the area of the sites for those located on TVA land. • Other sensitive ecological areas—Examples include heron rookeries, nest colonies, and unique cave or karst formations. • Land planned for any of the above uses in the future.
4	Natural Resource Conservation	<p>Land managed for the enhancement of natural resources for human use and appreciation. Management of resources is the primary focus of this zone. Appropriate activities in this zone include hunting, resource management, wildlife observation, and camping on undeveloped sites. Areas included are:</p> <ul style="list-style-type: none"> • TVA land under easement, lease, or license to other agencies for wildlife or forest management purposes. • TVA land fronting land owned by other agencies for wildlife or forest management purposes. • TVA land managed for wildlife or forest management projects. • Informal recreation areas maintained for passive, dispersed recreational activities such as hunting, hiking, bird watching, photography, primitive camping, bank fishing, and picnicking. • Shoreline conservation areas—Narrow riparian strips of vegetation between the water’s edge and TVA’s backlying property that are managed

Table 4 Planned Land Use Zone Definitions		
Zone		Definition
		<p>for wildlife, water quality, or visual qualities. Such riparian zones contribute to the ecology of the reservoir by providing food and habitat for diverse populations of plants and animals normally found in these areas. Trees and understory vegetation protect water quality by filtering nutrients, sediments, and other pollutants from runoff before they reach the lake. They also provide shade, cover, and a food source for fish.</p> <ul style="list-style-type: none"> • Wildlife observation areas—Areas with unique concentrations of easily observed wildlife that are managed as public wildlife observation areas. • River corridor without sensitive resources present—A river corridor is a linear greenspace along both streambanks of selected tributaries entering a reservoir managed for light boat access at specific sites, riverside trails, and interpretive activities. River corridors will be included in Zone 4 unless sensitive resources are present (see Zone 3). • Islands of 10 acres or less. • Land planned for any of the above uses in the future.
5	Industrial/ Commercial Development	<p>Land managed for economic development purposes. Areas included are:</p> <ul style="list-style-type: none"> • TVA land under easement, lease, or license to other agencies/individuals for industrial or commercial purposes. • TVA land fronting land owned by other agencies/individuals for industrial or commercial purposes. • Sites planned for future industrial use. <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • Business parks—TVA waterfront land which supports industrial or commercial development. • Industrial access—Access to the waterfront by backlying property owners across TVA property for water intakes, wastewater discharge, or conveyance of commodities (i.e., pipelines, rail, or road). Barge terminals are associated with industrial access corridors. • Barge terminal sites—Public or private facilities used for the transfer, loading, and unloading of commodities between barges and trucks, trains, storage areas, or industrial plants. • Fleeting areas—Sites used by the towing industry to switch barges between tows or barge terminals which have both off-shore and on-shore facilities. • Minor commercial landing—A temporary or intermittent activity that takes place without permanent improvements to the property. These sites can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks. <p>(Commercial recreation uses, such as marinas and campgrounds, are included in Zone 6.)</p>
6	Recreation	<p>All reservoir land managed for concentrated, recreational activities that require capital improvement and maintenance, including:</p> <ul style="list-style-type: none"> • TVA land under easement, lease, or license to other agencies/individuals for recreational purposes. • TVA land fronting land owned by other agencies/individuals for recreational purposes.

Table 4 Planned Land Use Zone Definitions		
Zone		Definition
		<ul style="list-style-type: none"> • TVA land developed for recreational purposes such as campgrounds, and day-use areas. • Land planned for any of the above uses in the future. <p>Types of development that can occur on this land are:</p> <ul style="list-style-type: none"> • Commercial recreation, e.g., marinas, boat docks, resorts, campgrounds, and golf courses. • Public recreation, e.g., local, state, and federal parks and recreation areas. • Greenways, linear parks located along natural features such as lakes or ridges, or along man-made features including abandoned railways or utility rights-of-way, which link people and resources together. • Water access sites, e.g., boat ramps, courtesy piers, canoe access, fishing piers, vehicle parking areas, picnic areas, trails, toilet facilities, and information kiosks.
7	Residential Access	<p>TVA-owned lands where Section 26a applications and other land use approvals for residential shoreline alterations are considered. Requests for residential shoreline alterations are considered on parcels identified in this zone where such use was previously considered and where the proposed use would not conflict with the interests of the general public. As provided for in the SMP, residential access would be divided into three categories based on the presence of sensitive ecological resources.</p> <p>The categories are: (1) Shoreline Protection* for shoreline segments that support sensitive ecological resources, such as federally-listed threatened or endangered species, high priority state-listed species, wetlands with high function and value, archaeological or historical sites of national significance, or which contain navigation restrictions; (2) Residential Mitigation for shoreline segments where resource conditions or navigation conditions would require special analysis and perhaps specific mitigation measures, or where additional data are needed; and (3) Managed Residential where no sensitive resources are known to exist.</p> <p>Types of development/management that can occur on this land are:</p> <ul style="list-style-type: none"> • Residential water use facilities, e.g., docks, piers, launching ramps/driveways, marine railways, boathouses, enclosed storage space, and nonpotable water intakes. • Residential access corridors, e.g., pathways, wooden steps, walkways, or mulched paths which can include portable picnic tables and utility lines. • Shoreline stabilization, e.g., bioengineering, riprap and gabions, and retaining walls. • Shoreline vegetation management on TVA-owned residential access shoreland. • Conservation easements for protection of the shoreline. • Other activities, e.g., fill, excavation, grading, etc. <p>* <i>Docks and other shoreline development are not permitted on land categorized as Shoreline Protection.</i></p>

A basic premise of the reservoir land planning process is that land currently committed to a specific use would be allocated to that current use unless there is an overriding need to change the use. Commitments include: transfers, leases, licenses, contracts, TVA projects such as the Dam Reservation or power lines, outstanding landrights, or TVA-developed recreation areas. Agricultural licenses would be excluded because they are considered to be an interim use of TVA land. For planning purposes, a total of 6103 acres of Tellico Reservoir lands are considered committed.

A key planning assumption of Alternative B was that areas identified as having sensitive resources would be protected by being placed into Zone 3, Sensitive Resource Management. However, if parcels with existing commitments (leases, licenses, contracts, etc.) contain sensitive resources, those parcels would remain zoned for the committed use. In addition, an environmental review would be needed prior to future activities that would impact the identified sensitive resources.

The TVA planning team and technical specialists reviewed, ranked, and allocated the plannable or uncommitted parcels to one of the six planning zones (Exhibit 2). Using resource maps and all of the information collected during the planning process including public input, the capability and suitability of each parcel were discussed. Allocation decisions were made by consensus. Land proposed by TVA to be allocated under this plan has been placed in Zones 2-7. Land already transferred in fee to TRDA or other entity is considered non-plannable. Table 5 shows the summary of proposed land use allocations for Alternative B. The contract will be modified to reflect the changes in land use designations as described in this EIS.

Table 5 Summary of Proposed Land Use Allocations for Alternative B			
Number of Parcels	Proposed Land Allocations	Acres	Percent of Total land
3	2 - Project Operations	635.1	5.0%
27	3 - Sensitive Resource Management	2,184.5	17.3%
41	4 - Natural Resource Conservation	7,136.5	56.4%
8	5 - Industrial/Commercial Development	331.4	2.6%
33	6 - Recreation	1,803.5	14.3%
27	7 - Residential Access	551.8	4.4%
Total		12,642.8	100.0%

2.3 Alternatives Eliminated from Consideration

The January 14, 1999, Notice of Intent to prepare the DEIS described three alternative plans. Two of these constitute Alternatives A and B, described above. The third alternative was similar to Alternative B, except that it would have allocated 853 acres of TVA-retained land on the downstream east bank of the reservoir for a commercial recreation and residential development proposed by Tellico Landing, Inc. (TLI). The TLI development would have also included 217 acres of TRDA land and backlying

private lands. The TVA Board announced on March 15, 1999, that it would no longer consider the TLI proposal affecting TVA-retained properties. This third alternative has, therefore, been eliminated from consideration in this EIS.

More recently, Tellico Landing LLC has announced its intention to develop a scaled-back commercial recreation facility on the TRDA-owned Lower Jackson Bend tract and backlying private lands. Because the TRDA land is currently zoned for Commercial Recreation, this development would not require TVA approval. TVA approval would, however, be required for any associated water access facilities such as a boat launching ramp or dock. As of early June, 2000, TVA had not received any plans for this facility.

3. AFFECTED ENVIRONMENT AND POTENTIAL EFFECTS

3.1 Visual Resources

Tellico Reservoir, newest of the Tennessee Valley reservoirs, offers somewhat of a unique visual character and scenic resource. Only the upper reaches of the Little Tennessee and the Tellico Rivers still reflect their pre-impoundment visual character. The balance of the reservoir land has a mix of new homes, industrial development, new highways, and an ever-growing, lake-oriented recreational use. However, in spite of the changes that have occurred since impoundment, the dominance of the valley-to-mountain setting that is the characteristic valued, scenic resource is still evident.

Areas of the reservoir which hold the greatest scenic value are those not yet developed, those that are a homeowner's predominant view, and the distinctive features in the landscape that are seen by the lake user and adjacent highway traveler. Undeveloped coves, scenic bluffs, steep shoreline with rock outcroppings, and unusual vegetative growth are held by the public as the most valuable of the reservoir's scenic resources. Twenty-nine miles of shoreline have excellent and distinctive visual qualities.

3.2 Cultural Resources

For at least 12,000 years, the Tennessee River and the Little Tennessee River Valley have been an area for human occupation which became more intense through succeeding cultural periods. In the upper east Tennessee area, archaeological investigations have demonstrated that Tennessee and the eastern Ridge and Valley Region were the setting for numerous cultural/temporal traditions. Areas such as this typically are characterized as rich in archaeological resources and historic properties.

TVA is mandated under the National Historic Preservation Act (NHPA) of 1966 and the Archaeological Resources Protection Act (ARPA) of 1979 to protect significant archaeological resources and historic properties located on TVA lands or affected by TVA undertakings. Recently, TVA contracted with the University of Tennessee to conduct a Phase I Cultural Resources Survey of approximately 2,541 acres of TVA land being planned and located above summer operating range (elevation 812-813) on Tellico Reservoir. Existing data along with the recent survey results were reviewed, and over 750 archaeological resources have been identified within and along the Tellico Reservoir. A large number of these resources have been inundated due to reservoir impoundment. A total of 410 archaeological resources were identified in the area being planned. About 53 of these archaeological resources were recommended to be ineligible for listing in the National Register of Historic Places; 323 were recommended to be potentially eligible for listing; and 34 were recommended to be eligible for listing. Additional archaeological resources likely occur on TVA lands not yet surveyed.

3.3 Threatened and Endangered Species

3.3.1 Plants

No populations of federally-listed plant species are known to exist on any TVA land on Tellico Reservoir. The nearest known such population is approximately 4.5 miles to the east of the reservoir in the Great Smoky Mountains National Park.

One species (bur-reed) state-listed as endangered is thought to be present, but a positive identification has yet to be made. One species (false foxglove) state-listed as threatened and two species (Carey's saxifrage and goldenseal) state-listed as special concern occur on lands being planned. Three state-listed species of pondweed (genus *Potamogeton*) have been found in the Tellico Reservoir area in the past but were not found during the course of this survey.

3.3.2 Terrestrial Animals

Review of TVA Regional Natural Heritage Program databases and investigations of files by TVA biologists during the planning process indicated the likely presence of eight rare terrestrial animals (bald eagle, osprey, sharp shinned hawk, common barn owl, river otter, green anole, Junaluska salamander, and eastern hellbender) and one sensitive ecological area on Tellico Reservoir lands. Additionally, three caves were found during field investigations. Of these species, only the bald eagle is federally-listed. TVA databases indicate three additional state-protected animal species within a 10-mile radius of the center of Tellico Reservoir. These species are the grasshopper sparrow, eastern glass lizard, and black-bellied salamander.

Although not reported from Tellico Reservoir lands, additional protected terrestrial animal species may be found because many parcels contain suitable habitat for several listed species. Suitable habitat exists for the gray bat, Indiana bat, small-footed myotis, meadow jumping mouse, southeastern shrew, and Cooper's hawk.

3.3.3 Aquatic Animals

TVA databases indicate that several state- and federally-listed fish are known from waters adjacent to, and are potentially present in, Tellico Reservoir. These species include two federally-listed species (the duskytail darter and smoky madtom), as well as two state-listed species (the Tennessee dace and the flame chub).

There are historical records of additional listed aquatic species (one snail, one mussel and four fish) which existed in the reservoir area prior to impoundment, but are no longer likely to occur in the habitat presently available in the pool area.

3.4 Terrestrial Ecology

Tellico Reservoir is located on the eastern edge of the Appalachian Ridge and Valley physiographic province of mid-east Tennessee and is within the Appalachian oak forest region. It is bordered by a wide variety of forests and open land habitats including agricultural lands and wetlands. Forest is the predominant land cover type in the Tellico Reservoir area, and about 90 percent of the land area within one-fourth mile of the reservoir shoreline is forested. Natural resource inventories have identified a diversity of plant and animal life on Tellico Reservoir lands which can be attributed to the varying land forms and topography.

Tellico Reservoir differs from most tributary reservoirs in that natural resources management and associated public use was a significant issue prior to and following reservoir inundation. An effort was made to delineate Natural/Wildlife Areas (1912 acres) on the reservoir as part of the Contract No. TV-60000A between TVA and TRDA, which dictated the framework for the development of Tellico Reservoir properties. TRDA properties that were allocated for Cultural/Public Use/Open Space Areas provide habitat for a variety of upland wildlife species previously mentioned. Other TRDA property that was allocated for Commercial Recreation and Industrial Development, such as Lower Jackson Bend and Wears Bend respectively, have not been developed to date and provide good habitat diversity for a variety of terrestrial resources. Wears Bend, which totals about 2000 acres, contains a variety of habitats and supports a substantial number of natural resource uses. It has been licensed to TWRA by TRDA for designation as a Wildlife Management Area on an interim basis.

3.5 Significant Natural Features

During the planning process, two areas on Tellico lands were identified as warranting protection because of the presence of ecologically significant plant communities: Upper Baker Creek (a riverine canebrake community) and Hall Bend (a combination of barren and bluff communities adjacent to a relatively mature hardwood forest).

3.6 Wetlands/Riparian Ecology

Wetlands in the Tellico Reservoir area were inventoried from aerial photographs in the early 1990s. A separate, more recent inventory of the residential access shoreline (69 miles) found that about one fourth of this shoreline supports wetland vegetation. The Tellico Reservoir land being planned supports approximately 900 acres of wetlands, found in over 700 locations scattered along the length of the system. Most wetlands are located below the 820 maximum shoreline contour (msc), with many found immediately adjacent to the summer water level shoreline.

Aquatic bed wetlands, comprised primarily of Eurasian watermilfoil, naiads, and parrotfeather, are found in some years primarily in the Tellico River arm of the reservoir and the upper end of the reservoir near the mouth of Citico Creek.

In addition to supporting plant community diversity, Tellico wetlands and adjacent shallow waters provide habitat for a variety of waterfowl, wading bird, songbird,

amphibian, reptile, and mammal species. Additional wetland functions include shoreline stabilization, water quality, plant community diversity, and landscape diversity. Values associated with these functions include wildlife observation and study, hunting, and visual aesthetics.

3.7 Recreation

Recreation use on Tellico Reservoir is influenced in large part by the surrounding urban areas, the planned residential development around the reservoir, and the population from the adjoining communities and counties. The reservoir setting offers a blend of beautiful mountain scenery as a backdrop to a lake area easily accessible by a regional population in the counties of Blount, Loudon, Monroe, and Knox estimated to be in excess of 525,000 and projected to increase to over 650,000 by the year 2010. Demands for water-based recreation activities are expected to increase as a result of continuing residential development of privately-owned land around the reservoir and the anticipated population increases.

There are two marinas, 14 well-dispersed public boat ramps, and several tracts of land on which TVA has sold or provided land rights to the TRDA, TWRA, and local agencies for development and management of public and commercial recreation areas. TRDA has existing rights to manage its land for public and commercial recreation purposes, and rights to use TVA property below the 820 msc. The Plan does not change these rights, and the proposed Tellico Landing LLC development is located on property (Lower Jackson Bend) where these rights exist. In addition, the TDEC manages the 850-acre Fort Loudoun State Historic Park for public recreation, wildlife management, and historic and scenic preservation purposes. The Eastern Band of the Cherokee Indians manages the Sequoyah Birthplace Museum located near the state park. Some of these tracts are not yet fully developed or utilized.

3.8 Water Quality

General Water Quality Characteristics - Tellico Reservoir is generally considered a low productivity reservoir with low nutrient and biological oxygen demand concentrations. The upstream reach receives primary inflow from Chilhowee Reservoir and is essentially riverine with water quality similar to the Chilhowee release, i.e., cold and nutrient poor with low mineral content. Water quality in the downstream reach of the reservoir is influenced not only by local inflows and internal reservoir processes, but also by the hydrodynamics and exchange of water through the canal connecting Tellico and Fort Loudoun Reservoirs. The canal is only 20 to 25 feet deep and the Tellico forebay is 82 feet deep. The result is that water at strata below the 25-foot depth is essentially trapped and becomes anoxic during much of the summer

Hydrologic Units - The Little Tennessee River Watershed is divided into two cataloging units (Hydrologic Unit Codes [HUC's]) called the Lower Little T and the Upper Little T. TVA manages watershed initiatives that are based on watershed

conditions using input from stakeholders, coalitions, local governments, and state and federal agencies. HUC ratings for watersheds are good, fair, or poor. Approximately 49 percent of the acreage of the TVA land being planned is in watersheds with fair HUC rating. The remaining land is in watersheds rated poor.

Recent Evaluations by the State of Tennessee - The 1996 TDEC water quality assessment report, known as the 305(b) Report, listed all of Tellico Reservoir as impacted/not supporting designated stream use classifications. Listed causes were priority pollutant organics, organic enrichment/DO, nutrients, siltation, and flow alteration resulting from some combination of sources including runoff from pasture land, land development, impoundment and hydroelectric generation, and contaminated sediment.

3.9 Aquatic Ecology

Aquatic habitat in the littoral (near shore) zone is greatly influenced by underwater topography and backlying land use. Underwater topography at Tellico Reservoir varies widely. The overall average SAHI score at Tellico was 22.2 (of a possible 35), which indicates generally “fair” shoreline aquatic habitat within the reservoir. Average SAHI scores were higher adjacent to lands currently allocated for Natural/Wildlife Areas (SAHI 27 = “good”), and Cultural/Public Use/Open Space Areas (SAHI 24 = “fair”); SAHI scores adjacent to all other allocated uses averaged 14 or 15 (“poor”).

Benthic Community - Benthic macroinvertebrate (e.g., lake bottom-dwelling, readily-visible, aquatic worms, snails, crayfish, and mussels) sampling rated Tellico Reservoir from poor to very poor in comparison to other run-of-the-river reservoirs.

Fish Community - The Reservoir Vital Signs Monitoring Program included annual fish sampling at Tellico Reservoir from 1990 through 1995 and in 1997 and 1999. Fish are included in aquatic monitoring programs because they are important to the aquatic food chain and because they have a long life cycle which allows them to reflect conditions over time. Fish are also important to the public for aesthetic, recreational, and commercial reasons. Overall results indicate that the Tellico fish community may be improving in recent years. In 1999 sampling, overall species diversity was good, as was the incidence of anomalies. The TDEC presently advises that catfish from Tellico Reservoir not be eaten because of PCB contamination.

3.10 Socioeconomics

The Tellico Reservoir lies in Blount, Loudon, and Monroe Counties in middle east Tennessee, largely within the western part of the Knoxville metropolitan statistical area and well within the Knoxville labor market area.

Population - The 1999 population of the three counties in the Tellico area is estimated by the U. S. Bureau of the Census to be 178,253, a 20.6 percent increase over the 1990 population of 147,758. Recent population growth has exceeded long-term historical

rates. TVA considers it likely that this pattern of faster growth may continue for at least the near future.

Labor Force and Unemployment - In 1999, the civilian labor force of the three-county area was over 91,000. The unemployment rate for the area as a whole was the same as the state, but somewhat higher than the national rate.

Housing - Based on 1990 median values of owner-occupied houses, housing prices are generally similar to those elsewhere in the state. Lakefront lots on Tellico Reservoir, one-third to one-half acre in size, currently sell for between \$100,000 and \$350,000. The market continues to grow for lakefront and lakeview real estate.

Industrial Sites - Industrial and economic development activities related to Tellico Reservoir occur both adjacent to the reservoir and in communities nearby. There are 14 industrial parks in Blount, Loudon, and Monroe Counties which have tracts of land that are developed and available for industrial use, including two industrial parks adjacent to the reservoir itself.

Environmental Justice - The nonwhite population in the area in 1990 was much lower than the state average of 17.0 percent. The highest share was in Blount County, 4.0 percent, with the other counties at 3.2 in Monroe and 1.7 in Loudon. Hispanic origin populations range from 0.3 to 0.4 percent, all below the state average of 0.7 percent.

In Blount County, the percentage of persons below poverty level in 1989 was 12.4, lower than the state average of 15.7. In Loudon County, the poverty rate was slightly higher at 13.6 percent, still below the state average. In Monroe County, the rate was higher than the state average at 17.8 percent.

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3.11 Navigation

The commercial navigation channel on Tellico Reservoir extends 18.8 miles up the Little Tennessee River from the Tellico Canal at Tennessee River Mile 602.3L to the public-use barge terminal at Little Tennessee River Mile (LTRM) 18.8L. TVA marks secondary navigation channels for recreational boaters.

3.12 Prime Farmland

The conversion of farmland to industrial and other nonagricultural uses essentially precludes farming the land for the foreseeable future. With enough conversion of productive farmland, the economic base of rural communities can be adversely affected. There are 42 soil map units totaling 2102 acres located on the lands being planned that are considered to be prime farmland.

3.13 Other Issues

3.13.1 Floodplains

The 100-year floodplain on Tellico Reservoir is the area inundated by the 100-year flood. The 100-year flood elevation for the Little Tennessee River varies from elevation 816.2-feet above mean sea level (msl) at Tellico Dam (LTRM 0.35) to elevation 823.0-feet msl at the upper end of Tellico Reservoir at LTRM 33.57 (downstream of Chilhowee Dam). For the Tellico River, the 100-year flood varies from elevation 816.5-feet msl at the mouth to elevation 838.5-feet msl at the upper end of Tellico Reservoir at Tellico River Mile 20.67. The planned land lakeward boundary is maximum pool elevation of 813.0-feet msl.

Any fill material placed between elevations 807.0-feet msl and 813.0-feet msl would be subject to a charge for lost power storage. Generally, the quantity of fill required for residential projects such as shoreline stabilization and boat ramps would not result in a charge for lost power storage. Any material placed between elevations 807.0-feet msl and the TVA Flood Risk Profile (FRP) elevation would be subject to the requirements of the TVA Flood Control Storage Loss Guideline (TVA, 1999). All development subject to flood damage must be located above the FRP elevation.

3.13.2 Noise

TVA typically applies the following guidelines in covenants pertaining to Industrial/Commercial Development areas. Under Alternatives A or B, activities would be expected to meet an operational (7 a.m. to 7 p.m.) noise limit of 60 decibels, A-weighted (dBA) equivalent sound level (Leq) 100 feet off the waterfront or at the property line. A nonoperational (7 p.m. to 7 a.m.) noise limit of 55 dBA Leq would be expected to be met. All fixed and mobile equipment would be expected to be well-maintained and have factory equivalent mufflers installed and operational.

3.13.3 Air Quality

National Ambient Air Quality Standards (NAAQS) limit concentrations in the outside air of six pollutants: particulate matter, sulfur dioxide, carbon monoxide, ozone, nitrogen dioxide, and lead. These standards are designed to protect public health and welfare. In addition, Prevention of Significant Deterioration (PSD) regulations protect national parks and wilderness areas which are designated PSD Class I air quality areas. In addition, the federal land manager having jurisdiction over the Class I area may request similar action for large sources at distances of 31 to 62 miles. There are three PSD Class I areas within 62 miles of Tellico Reservoir.

3.14 Comparison of Alternatives

Direct comparison of any given land use is difficult since the earlier (Alternative A) land planning designations and the planning zones (Alternative B) are not the same.

With Alternative B, the majority of TVA property would be allocated to Zone 3 (Sensitive Resource Management) and Zone 4 (Natural Resource Conservation).

Dispersed informal recreational activities commonly conducted on areas designated under Public Recreation, Cultural/Public Use/Open Areas or Natural/Wildlife areas of Alternative A may also be conducted in Zones 3 and 4 of Alternative B. Areas that are developed or may have future recreational development are allocated to Zone 6 (Recreation) in the Plan.

A major change from existing land designations is the creation of Zone 3 (Sensitive Resource Management). Land containing sensitive resources such as sensitive species, archaeological resources, significant visual resources, wetlands, and others is allocated to this zone. Under Alternative A the resources identified for protection would be protected by individual environmental reviews of specific land use proposals. However, allocation of these resources to Zone 3 in Alternative B allows the protection of the sensitive resource to be the overriding objective for the management of a particular parcel of land, as well as providing an additional tool to better manage the potential for cumulative effects on a sensitive resource.

Most of the land currently committed to a specific use would be allocated to that current use under either Alternative A or B. As reflected in Table 2.4-1 and parcel descriptions included in the Plan, the most substantive changes from the current land use allocations to the new system of zones would be as follows:

- Reallocation of about 389 acres from Cultural/Public Use/Open Space Areas to Recreation. This acreage includes approximately 38 acres needed to support a renewed proposal by the Eastern Band of the Cherokee Indians for commercial recreation development (possible hotel/conference/resort) near Highway 411 in Vonore at the mouth of the Tellico River. Proceeds from this activity would be used to support the continued operation of the Sequoyah Birthplace Museum. The proposed allocation for the remaining acreage is as follows: 140 acres to Commercial Recreation (for which there are no formal proposals) and 211 acres to Public Recreation.
- Clearer definition of lands where the adjoining property owners currently qualify for private water use facilities (i.e., 122 acres from Cultural/Public Use/Open Space Areas, 6 acres from TVA Dam Reservation, and 83 acres from Natural/Wildlife Areas). TVA did retain fee interest below the 820-foot contour on Tellico Reservoir. The zones proposed under Alternative B would simply recognize that the marginal strip lands (those below 820-foot contour) would be classified to reflect the rights of the existing backlying property owners. Lake access rights are governed by the deed conveying the affected backlying property and by Contract No. TV-60000A with TRDA. Conversely, 80 acres affected by sensitive/protected resources and/or physical constraints that are unsuitable for such use and have been moved from the Private Residential designation to more protective Zones 3, 4, and 6.

Alternative A would continue the use of the 1982 land use plan. Selection of this alternative could result in some reduction in potential long-term benefits on Tellico Reservoir. Alternative B would allocate land into categories that emphasize sensitive resource management and natural resource conservation. Selection of this alternative would be beneficial to public lands and would protect current resource functions and values. Impacts of either alternative (summarized in Table 6) would be insignificant.

3.15 The Preferred Alternative

The Preferred Alternative is Alternative B. This alternative formulates a new and comprehensive Reservoir Land Management Plan for 139 parcels of TVA land on Tellico Reservoir. This Plan grandfathers previous land use commitments and allocates uncommitted TVA land into zones that allow for a balance of development and conservation.

3.16 Proposed Mitigation Measures

1. TVA will follow the procedures specified in a Memorandum of Agreement with the State Historic Preservation Officer for the identification, evaluation, and treatment of historic properties that are eligible for inclusion in the National Register of Historic Places.
2. USFWS guidelines would be used to establish buffer zones around nesting bald eagle nests.
3. The current practice of prohibiting the construction of water use facilities and shoreline alterations within the marked limits of the safety landing would be continued to avoid interference with commercial navigation.
4. Noise covenants consistent with the guidelines described in Section 3.12.2. would be included in land transfer instruments pertaining to parcels in Zone 5.
5. Amenities provided in Coytee Springs Recreation Area (Parcel 10) (e.g. picnic areas, walking trails, and greenway entry/exit points) would be limited to day-time use.
6. Guidelines proposed in Appendix B-1 of the FEIS would be consulted in reviewing applications for water use facilities on the River Corridor.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.1	Visual Resources	A general cumulative decline in undeveloped scenic/aesthetic resources is expected as residential and commercial development increase. The 1982 land use plan does not have a designation for scenic/aesthetic protection of TVA held tracts. Visual impacts of development would continue to be evaluated prior to issuance of permits.	Generally has a beneficial effect on visual resources. Land with distinctive visual characteristics or outstanding scenic qualities would be placed in the Sensitive Resources Management Zone or the Natural Resource Conservation Zone (Zones 3 and 4). Cumulative effects to visual resources would be less, as compared to Alternative A. Visual impacts of development would continue to be evaluated prior to issuance of permits.
3.2	Cultural Resources	Surveys of about 20 percent of the plan lands identified 410 archaeological resources. Two-thirds of these resources are on Cultural/Public Use/Open Space Areas and Natural/Wildlife Areas lands where activities resulting in potential impacts are unlikely. All activities resulting in potential impacts to cultural resources would be evaluated under the Phased Identification and Evaluation Procedure, set forth in regulations of the Advisory Council on Historic Preservation. The activities would be approved, mitigated, or denied according to the significance of the resource. If mitigation is required, appropriate archaeological investigation will be necessary and potentially impacted resources will be properly recorded and removed.	About 63 percent of the 410 identified archaeological resources are on lands that would be in Zones 3 and 4, affording them a high degree of protection. All activities resulting in potential impacts to cultural resources would be evaluated under the Phased Identification and Evaluation Procedure, set forth in regulations of the Advisory Council on Historic Preservation. A Memorandum of Agreement (MOA) has been prepared and executed with the Tennessee State Historic Preservation Officer (SHPO) for identification, evaluation, and treatment of historic properties that are eligible for inclusion in the National Register of Historic Places (NRHP).
3.3	Threatened and Endangered Species	<u>Plants</u> - Because no populations of federally-listed plants are known to occur on Tellico Reservoir lands, no impacts to such species are expected. Populations of listed species that might be discovered in the future would continue to be considered during TVA environmental review of individual projects and protective or mitigative measures would be implemented as required by law and TVA policy. Therefore, no direct impacts to rare plants are anticipated.	<u>Plants</u> - Because no populations of federally-listed plants are known to occur on Tellico Reservoir lands, no impacts to such species are expected. TVA environmental reviews would address direct threats to state- and federally-listed plants. The planning zones established would protect ecologically-sensitive parcels by acting as a “first filter” in the early stages of project planning, thereby minimizing conflicting land use requests.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
	Threatened and Endangered Species (cont.)	<u>Terrestrial Animals</u> - Under the existing plan, several tracts of excellent wildlife habitat are designated as Cultural or Public areas. Effects to populations of terrestrial threatened and endangered species would be considered during TVA environmental reviews associated with specific projects; therefore, no significant adverse impacts are expected. Although this process would protect most populations of rare terrestrial animals, the ability to address cumulative impacts to rare terrestrial animals would be limited.	<u>Terrestrial Animals</u> - Specific land use categories have been designated to protect sensitive terrestrial animals and their habitats and sensitive ecological areas. Cumulative impacts to rare species would be better addressed because of the comprehensive nature of the land planning process for Tellico Reservoir Lands. No significant impacts are anticipated.
		<u>Aquatic Animals</u> - Environmental review procedures, including compliance with the Endangered Species Act, would assure that TVA actions would not likely adversely affect the habitat of rare species. However, while TVA would protect sensitive species during individual reviews, there is some potential for indirect or cumulative impacts.	<u>Aquatic Animals</u> - Environmental review procedures, including compliance with the Endangered Species Act, would assure that TVA actions would not likely adversely affect the habitat of rare species. In addition, Alternative B protects several large areas containing wetlands and other sensitive terrestrial habitats. Many of these areas will act as riparian buffer zones and, thus, will have an indirect but positive effect on aquatic habitat quality. Also, large lowland areas protected for cultural concerns may provide additional protection to aquatic habitats. Therefore, if any sensitive aquatic species are present, Alternative B will afford these species and/or habitat greater protection than the 1982 land use plan.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.4	Terrestrial Ecology and Other Significant Natural Features	A large portion of TVA's retained land could remain undeveloped and managed indefinitely primarily for informal recreation. However, future land use actions driven by TVA, TRDA, or other public or private entities, could result in substantial impacts to terrestrial ecological resources on a localized basis. Cumulative impacts under this alternative would be considered insignificant on a regional basis.	Alternative B would provide for enhanced management and protection of terrestrial ecological resources on Tellico Reservoir properties. This would result from a longer commitment of certain land parcels to specific designations such as Sensitive Resource Management and Natural Resource Conservation. Also, the subsequent development of unit management plans would maintain and enhance natural biological diversity on these parcels. Selection of this alternative would result in insignificant impacts on terrestrial ecological resources on a regional and cumulative basis, and, consequently, improved future protection and management of terrestrial resources, wildlife habitat, and diversity on a reservoir-wide basis.
3.5	Wetlands/Riparian Ecology	Environmental review procedures would ensure insignificant impacts on wetlands and associated function and values, as well as wildlife dependent upon wetlands on a regional or subregional basis. Under Alternative A, wetland areas would most likely remain largely unchanged, although some emergent wetlands may gradually mature to shrub/scrub wetlands. Selection of Alternative A would have an insignificant impact on wetlands and associated functions and values on a regional or subregional basis.	Selection of Alternative B would provide a beneficial effect to wetland resources on TVA lands and best protect current wetlands' functions and values. Wetlands would be managed to protect and/or enhance the hydrology, soils, and vegetation of each wetland system to improve overall functions and values. Riparian communities would be managed to allow the natural development of native vegetation or restored through bioengineering where shoreline erosion is impacting these areas. Impacts to wildlife dependent on wetlands would likely be beneficial because of the long-term commitment of additional lands for natural resource protection and enhancement.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.6	Recreation	Continuing with this alternative and its associated land designations would preclude comprehensive public input and application of broad public values. The cumulative effect of selecting this alternative could be less than optimal allocation of lands for recreation and some reduction in potential long-term recreational benefits on Tellico Reservoir.	This comprehensively addresses the existing physical characteristics of land being planned around Tellico Reservoir, current recreational use patterns, public input, anticipated recreational needs, and public values pertaining to recreational use of this property. Selection of this alternative would result in a slight increase in lands allocated for developed recreation and better integration of recreation with other reservoir land values. Informal recreation should not be affected.
3.7	Water Quality	Under this alternative, future land use and development is less restricted and has greater potential for incremental adverse effects on water quality from an increase in shoreline development (e.g., increased soil erosion, turbidity, levels of substances toxic to aquatic life, bacteriological content, and further increases in nutrient loading). TVA's current permitting process and best management practices would minimize impacts associated with development to insignificant.	Alternative B provides better opportunity to protect water quality by designating more parcels to Sensitive Resource Management or Natural Resource Conservation (Zones 3 and 4, respectively). This alternative limits development and ensures that other activities such as developed recreational use, resource management, or other conservation uses would be conducted with protection of natural resources as an objective. Allocation of other parcels for future developed recreational activities or other public access/use areas would allow TVA control over development to minimize adverse impacts. Direct, indirect, and cumulative impacts to water quality would be minimized and insignificant.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.8	Aquatic Ecology	There would likely be some minor degradation of aquatic habitats associated with continued development along the reservoir shoreline. Under this alternative, the quality of aquatic habitat (as evidenced by Shoreline Aquatic Habitat Index [SAHI] scores) would likely remain much like existing conditions. Few tracts of TVA property, however, are designated specifically for protection of sensitive resources, and the extent of protection of natural resources in other designations (such as the Cultural/Public Use/Open Space Areas) is vague. Although protection of the natural reservoir shoreline may be undertaken as a secondary consideration on tracts of TVA land designated for various uses, natural resource protection or conservation, and, consequently, impacts to aquatic communities may not be a primary consideration when land use decisions are made affecting those tracts.	Reservoir-wide quality of aquatic nearshore habitat would remain unchanged (as evidenced by SAHI scores). This alternative would provide a better opportunity to protect or enhance aquatic habitats by identifying sensitive resource management or conservation as the designated use on some tracts now having general designations such as Cultural/Public Use/Open Space Areas. Any of the proposed uses of Zone 3 or 4 lands would allow for the protection or enhancement of aquatic habitats by preserving a natural shoreline condition offering a variety of cover types. Some development of the reservoir shoreline is likely to continue under either alternative. However, Alternative B affords additional protection to aquatic resources near some Zone 7 lands by designating some adjacent shoreline as Zone 4, which will allow preservation of a more natural shoreline condition in some restricted areas of residential development.
3.9	Socioeconomics	This alternative currently classifies approximately 371 acres of land for industrial use. Although some of this land may not in fact be available for such use due to the presence of sensitive resources or due to its use for enhancement of natural resources, it would increase the range of opportunities available to industrial developers in the area. However, the impact on jobs and income in the local economy is uncertain. About 1400 acres of land are classified for recreation but would not likely result in an important increase in jobs and income in the area. Construction of homes and rentals would have a small impact on the local economy.	Alternative B, by allocating uncommitted TVA land, decreases the emphasis on commercial, industrial, and residential uses and increases the emphasis on sensitive resource protection and natural resource conservation. This change in emphasis might lead to less development on the shoreline. However, this change probably would not have an important impact on the local economy since much of this activity likely would occur nearby instead.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.10	Navigation	All safety landings would continue to be available for use by the towing industry, and there would be no potential effects on commercial navigation.	There would be no additional effects to commercial navigation from this alternative. The land use designation for the shoreline containing the four safety landing tracts would have little or no impact on navigation.
3.11	Prime Farmland	Present amounts of prime farmland unavailable due to land use allocations (10.7 percent) would remain the same under the current plan. As proposals for future development are submitted to the agency over time, the assessment of impacts to prime farmland would be conducted on a case-by-case basis. Prior to future conversion of this land to nonagricultural uses, a Farmland Conservation Impact Rating (USDA-NRCS Form AD-1006) would be required.	Slight, insignificant decrease in the amount of prime farmland available (15.3 percent of prime farmland on TVA lands). Impacts to prime farmland soils will be minimal under the proposals for both greenways and the development near Hwy. 411 due to the very small acreage of prime farmland soils within each area. The proposed River Corridor would also have minimal impacts to prime farmlands.

Table 6 Comparison of Potential Environmental Effects by Alternative			
Section of EIS	Resource Area	Alternative A	Alternative B
3.12 Other issues			
3.12.1	Floodplains	Impacts to floodplain values would be insignificant. The allocation, development, and/or management of properties would be made on a case-by-case basis, and evaluations would be done individually to ensure compliance with Executive Order 11988. Potential development would generally consist of water use facilities and other repetitive actions in the floodplain that should result in minor floodplain impacts.	Impacts to floodplain values would be insignificant. However, potential adverse impacts to natural and beneficial floodplain values would be less than those under Alternative A because a substantial portion of the available land would be allocated for resource management and conservation activities. Little development which could affect floodplain values would occur on these Zone 3 and Zone 4 lands.
3.12.2	Noise	Activities on lands allocated to Dam Reservation, Cultural/Public Use/Open Space Areas, Natural/Wildlife Areas, or retained lands are unlikely to exceed community noise standards. TVA would review development plans to ensure that no significant noise-emitting facilities are included, and that construction noise controls are in place.	Same as Alternative A.
3.12.3	Air Quality	There would be insignificant effects on air quality.	Same as Alternative A.